WHAT IS CLAIMED IS:

1. An exposure apparatus comprising:

a plurality of housings, said housings are provided adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

pressure sensors which sense pressures inside respective ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

2. An exposure apparatus comprising:

a plurality of housings, said housings are provided adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

differential-pressure sensors which sense differences in pressure between adjacent ones of said

housings; and

a control unit which controls said gas supplier on the basis of outputs from said differential-pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

3. The apparatus according to claim 1, wherein said gas supplier includes air conditioners capable of supplying a purging gas to respective ones of said housings and of exhausting gas from the interior of respective ones of said housings;

said air conditioners being operated in such a manner that measured values provided by said pressure sensors attain respective ones of the predetermined pressures.

4. The apparatus according to claim 2, wherein said gas supplier includes air conditioners capable of supplying a purging gas to respective ones of said housings and of exhausting gas from the interior of respective ones of said housings;

said air conditioners being operated in such a manner that measured values provided by said differential-pressure sensors attain respective ones of the predetermined pressures.

5. The apparatus according to claim 1, wherein said housings include at least one of an optics space containing members of an optical system and a drive space containing driving members.

6. The apparatus according to claim 2, wherein said housings include at least one of an optics space containing members of an optical system and a drive space containing driving members.

7. The apparatus according to claim 5, wherein said optics space is at least one of a guiding optics space for introducing exposing light from a light source into the apparatus, an illuminating optics space for illuminating a reticle with the exposing light, and a projection optics space for projecting the reticle pattern onto the substrate.

8. The apparatus according to claim 6, wherein said optics space is at least one of a guiding optics space for introducing exposing light from a light source into the apparatus, an illuminating optics space for illuminating a reticle with the exposing light, and a projection optics space for projecting the reticle pattern onto the substrate.

9. The apparatus according to claim 5, wherein said drive space is at least one of a reticle-stage space containing a reticle stage on which the reticle is

mounted, a substrate-stage space containing a substrate stage on which the substrate is mounted, and a masking-blade space containing a masking blade.

10. The apparatus according to claim 6, wherein said drive space is at least one of a reticle-stage space containing a reticle stage on which the reticle is mounted, a substrate-stage space containing a substrate stage on which the substrate is mounted, and a masking-blade space containing a masking blade.

11. The apparatus according to claim 5, wherein said optics space is a helium atmosphere and said drive space is a nitrogen-gas atmosphere.

12. The apparatus according to claim 6, wherein said optics space is a helium atmosphere and said drive space is a nitrogen-gas atmosphere.

13. The apparatus according to claim 7, wherein said control unit performs control in such a manner that pressure within said projection optics space is held constant.

14. The apparatus according to claim 8, wherein said control unit performs control in such a manner that pressure within said projection optics space is held constant.

15. The apparatus according to claim 1, wherein whichever of said spaces requires a high level of

cleanliness is held at a pressure higher than the pressures of the other spaces.

16. The apparatus according to claim 2, wherein whichever of said spaces requires a high level of cleanliness is held at a pressure higher than the pressures of the other spaces.

17. The apparatus according to claim 3, wherein each of said air conditioners has a control valve for controlling a ratio of amount of purging gas supplied to amount of exhaust, and pressure within a corresponding housing is regulated by said control valve.

18. The apparatus according to claim 4, wherein each of said air conditioners has a control valve for controlling a ratio of amount of purging gas supplied to amount of exhaust, and pressure within a corresponding housing is regulated by said control valve.

19. The apparatus according to claim 1, wherein said control unit controls the pressure within each of said housings in such a manner that amount of deformation of said members due to a differential pressure between pressures within adjacent ones of said housings falls within a range in which said differential pressure has no significant effect upon optical performance.

20. The apparatus according to claim 2, wherein said control unit controls the pressure within each of said

housings in such a manner that amount of deformation of said members due to a differential pressure between pressures within adjacent ones of said housings falls within a range in which said differential pressure has no significant effect upon optical performance.

21. The apparatus according to claim 1, wherein a laser light source for said exposure apparatus is an F_2 excimer laser source.

22. The apparatus according to claim 1, wherein a laser light source for said exposure apparatus is an F_2 excimer laser source.

23. The apparatus according to claim 1, wherein the purging gas is an inert gas.

24. The apparatus according to claim 1, wherein the purging gas is an inert gas.

25. A method of manufacturing semiconductor devices, comprising steps of:

placing a plurality of items of semiconductor manufacturing equipment, inclusive of an exposure apparatus, in a semiconductor manufacturing plant; and

manufacturing a semiconductor device using said plurality of items of semiconductor manufacturing equipment;

said exposure apparatus having:

a plurality of housings, said housings are provided

adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

pressure sensors which sense pressures inside respective ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

26. A method of manufacturing semiconductor devices, comprising steps of:

placing a plurality of items of semiconductor manufacturing equipment, inclusive of an exposure apparatus, in a semiconductor manufacturing plant; and

manufacturing a semiconductor device using said plurality of items of semiconductor manufacturing equipment;

said exposure apparatus having:

a plurality of housings, said housing are provided adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at

boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

differential-pressure sensors which sense differences in pressure between adjacent ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said differential-pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

27. The method according to claim 25, further comprising the steps of:

connecting said plurality of items of semiconductor manufacturing equipment by a local-area network;

connecting said local-area network and an external network outside the plant;

acquiring information concerning said exposure apparatus from a database on the external network utilizing said local-area network and said external network; and

controlling said exposure apparatus based upon the information acquired.

predetermined pressures.

28. The method according to claim 25, further

comprising the steps of:

connecting said plurality of items of semiconductor manufacturing equipment by a local-area network;

connecting said local-area network and an external network outside the plant;

acquiring information concerning said exposure apparatus from a database on the external network utilizing said local-area network and said external network; and

controlling said exposure apparatus based upon the information acquired.

29. The method according to claim 25, wherein maintenance information for said manufacturing equipment is obtained by accessing, by data communication via the external network, a database provided by a vendor or user of said exposure apparatus, or production management is performed by data communication with a semiconductor manufacturing plant other than the first mentioned semiconductor manufacturing plant via the external network.

30. The method according to claim 26, wherein maintenance information for said manufacturing equipment is obtained by accessing, by data communication via the external network, a database provided by a vendor or user of said exposure apparatus, or production

management is performed by data communication with a semiconductor manufacturing plant other than the first mentioned semiconductor manufacturing plant via the external network.

31. A semiconductor manufacturing plant capable of communicating, by data communication, information relating to at least one item of semiconductor manufacturing equipment among a group thereof, said plant comprising:

a plurality of items of semiconductor manufacturing equipment inclusive of an exposure apparatus;

a local-area network which interconnects said plurality of items of semiconductor manufacturing equipment; and

a gateway which connects said local-area network and an external network outside said semiconductor manufacturing plant;

wherein said exposure apparatus has:

a plurality of housings, said housings are provided adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

pressure sensors which sense pressures inside respective ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

32. A semiconductor manufacturing plant capable of communicating, by data communication, information relating to at least one item of semiconductor manufacturing equipment among a group thereof, said plant comprising:

a plurality of items of semiconductor manufacturing equipment inclusive of an exposure apparatus;

a local-area network which interconnects said plurality of items of semiconductor manufacturing equipment; and

a gateway which connects said local-area network and an external network outside said semiconductor manufacturing plant;

wherein said exposure apparatus has:

a plurality of housings, said housing are provided adjacently, which covers at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

differential-pressure sensors which sense differences in pressure between adjacent ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said differential-pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

33. A method of maintaining an exposure apparatus, comprising the steps of:

preparing a database, which stores information relating to maintenance of said exposure apparatus, on an external network outside a plant at which said exposure apparatus has been installed;

connecting said exposure apparatus to a local-area network inside said plant; and

maintaining said exposure apparatus, based upon information that has been stored in said database, utilizing said external network and said local-area network;

wherein said exposure apparatus has:

a plurality of housings, said housing are provided adjacently, which cover at least part of an optical path

of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

pressure sensors which sense pressures inside respective ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

34. A method of maintaining an exposure apparatus, comprising the steps of:

preparing a database, which stores information relating to maintenance of said exposure apparatus, on an external network outside a plant at which said exposure apparatus has been installed;

connecting said exposure apparatus to a local-area network inside said plant; and

maintaining said exposure apparatus, based upon information that has been stored in said database, utilizing said external network and said local-area network;

wherein said exposure apparatus has:

a plurality of housings, said housings are provided

adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

differential-pressure sensors which sense differences in pressure between adjacent ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said differential-pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

35. An exposure apparatus capable of performing data communication via a computer network, comprising:

a network interface, which is connected to the network, for performing data communication, a display which displays results of the data communication; and a computer, which is connected to the network, for executing software for communicating data;

said exposure apparatus further comprising:

a plurality of housings, said housings are provided adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

pressure sensors which sense pressures inside respective ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

36. An exposure apparatus capable of performing data communication via a computer network, comprising:

a network interface, which is connected to the network, for performing data communication, a display which displays results of the data communication, and a computer, which is connected to the network, for executing software for communicating data;

said exposure apparatus further comprising:

a plurality of housings, said housings are provided adjacently, which cover at least part of an optical path of exposing light;

members transparent to exposing light provided at boundaries of the adjacent housings;

a gas supplier which supplies the interior of each housing with a purging gas;

differential-pressure sensors which sense differences in pressure between adjacent ones of said housings; and

a control unit which controls said gas supplier on the basis of outputs from said differential-pressure sensors in such a manner that pressures within the respective housings will attain respective ones of predetermined pressures.

37. The apparatus according to claim 35, wherein the network software provides said display with a user interface for accessing a maintenance database, which is connected to an external network of a plant at which said exposure apparatus has been installed, and which is provided by a vendor or user of the exposure apparatus, thereby making it possible to obtain information from said database via said external network.

38. The apparatus according to claim 36, wherein the network software provides said display with a user interface for accessing a maintenance database, which is connected to an external network of a plant at which said exposure apparatus has been installed, and which is provided by a vendor or user of the exposure apparatus, thereby making it possible to obtain information from said database via said external network.